THE MARYLAND
# AGRICULTURAL EXPERIMENT STATION

STATE HORTICULTURAL DEPARTMENT.

CIRCULAR BULLETIN No. 39. MARCH, 1902.

## PEACH ROT.

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The rotting of the fruit causes a greater loss to peach growers in Maryland than any other disease. Last year, on account of weather conditions favorable to the development of the rot fungus, there was an exceptional loss; and it is very probable that with similar weather conditions this year, with the large amount of rotted fruit now present in orchards, a still greater loss from the rot would result, if something is not done to control it. Last year the loss was in some places as much as half the crop. The result of a careful and conservative estimate of the loss from the Brown Rot in one year in the Maryland and Delaware Peninsula was $400,000.

The rot is caused by a fungus, *Monilia fructiginea*, whose minute thread-like growth rapidly permeates the tissue of the peach and causes the rot. The dusty powdery substance produced in the ash-colored spots or patches on the outside of the rotten peaches consists of thousands of spores of the fungus, each so small that it cannot be seen without a microscope. Most of these spores, if they have proper conditions, would grow and produce the rot in other places. The fungus develops very rapidly in warm, wet weather. The most favorable time for its growth in the peach is at the time of blossoming and about the ripening period. The rotted fruits usually shrivel up, and many hang on the trees over winter.

Some of the spores may live and develop after several years, but the fungus is carried over winter mainly by the live portions remaining in the dried up or "mummy" peaches, which hang on the trees or lie under them. Early in spring, in warm moist weather, countless spores are produced from these mummy fruits, and, carried by wind or water, may develop in the flowers, causing them to turn brown and die, as if struck by frost. Later on it attacks the fruit, and from diseased fruit or flowers may pass downward and kill many of the twigs. The inner part of trees in a season favorable to rot are often filled with these blighted twigs. The same fungus also attacks plums and cherries.

PREVENTION.

It is clear that if the living portions of the fungus can be destroyed, and the spores, since by means of these only the rot spreads, prevented from germinating on the fruit or other susceptible parts of the tree, the rot will be prevented, no matter what the weather. Any means of reducing the moisture on the tree or fruit would also help to control it. It is very improbable that orchards could be entirely freed from rot, but experience shows that it can be controlled to a very profitable extent. United efforts on the part of neighbors would bring better results to each than if only an occasional one should treat his own orchard. Successful control of the rot this year will mean, with the same conditions, less rot next year.

Better orchard management will help to control the rot. Avoid low, damp situations for the orchard, and prune trees so as to admit air and sunshine. The moisture enclosed in close-headed trees makes a decided difference in the amount of rot. In pruning, the twigs killed by the rot fungus should be removed.

In early spring, all the dried up peaches remaining on the trees or under them should be collected and either burned or buried. They may be raked out between the rows and plowed under so deeply that cultivation later in the spring or summer will not unearth them. The rot-producing spores may, however, develop from them, if they are again turned up the following year. In destroying these mummy fruits, the principal source of infection is removed.

Thorough spraying with some fungicide to prevent the growth from spores that may be present on the tree or the sound fruit will control the rot. In spraying, the following procedure is advised: Spray before the buds begin to swell with Bordeaux mixture, made at the rate of four pounds copper sulphate and six pounds of good quick lime to fifty gallons of water. After the fruit is set spray with the Bordeaux mixture made with three pounds of copper sulphate and nine pounds of lime to fifty gallons of water. This spray should be repeated some time in the summer, certainly, if rot begins to appear. If, however, a spray must be applied inside of three or four weeks of ripening time, a copper acetate, or copper carbonate spray, that will not discolor the fruit, should be used. If conditions make it impossible to give but two sprayings, spray before the buds begin to swell, with copper sulphate solution or strong Bordeaux, and with the weaker Bordeaux mentioned above, when the fruit is about grown. This caution is to be observed: That these copper compound sprays will sometimes injure the peach leaves.

These sprayings will also prevent leaf curl, and the later applications, especially, are beneficial against black spot and mildew. The sprayed fruit will keep better, and thus prevent such large losses from rot in shipping, as have frequently been experienced.

Where water is held after rains, between peaches growing close together, rot is more apt to develop; so thinning the fruit may prevent some rot.

During the ripening season, especially when rot is developing rapidly, fruit which shows the least rot should be removed from the orchard and destroyed. Thus its rapid spread is checked, and at the end of the season, the orchard is free from mummy fruits, and ready for another year. Immediate removal of the rotting fruit also prevents much of the twig blight.

Work done against the rot must be begun before the peaches flower, since the spores which serve as the starting point for fungus growth during the summer begin to be produced from the mummy fruits early in spring.

In conclusion, remember that success in controlling the rot depends on keeping the rotten peaches out of the orchard and preventing the development of the spores by prompt and thorough spraying.